Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

CLAIMS LISTING (all of presented claims 1-37, 38-41)

Claim 1 (*Currently Amended*): A method for forming vias through an interlayer dielectric region of a monolithically integrated device where the interlayer dielectric region (ILD) is structured to separate a first conductive layer from a second conductive layer of the monolithically integrated device, the method comprising:

(a) providing an organic Anti-Reflection Coating layer (ARC layer) above the material of the ILD;

(b) providing a photoresist layer above the ARC layer, where the photoresist layer includes a plurality of first openings defined therethrough;

(c) creating from the first openings, a plurality of second openings extending through the organic ARC layer, where the second openings have inwardly-tapered sidewalls such that bottom width dimensions of the second openings are smaller than corresponding width dimensions of the first openings; and

(d) creating from the second openings, a plurality of third openings extending through the ILD material;

wherein said first conductive layer is part of an active layers set and wherein said second conductive layer defines a first major interconnect layer above said active layers set.

Claim 2 : (*Canceled*).

Claim 3 (*Previously Presented*): The method of Claim 1 wherein:

(b.1) said photoresist layer is composed of an organic material; and

(c.1) said step of creating the second openings includes using an etch inhibitor which selectively adheres to organic surfaces.

MacPherson Kwok Chen & Heid LLP
2033 Gateway Place,
Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262

Claim 4 (*Previously Presented*): A method for forming vias through an interlayer dielectric region of a monolithically integrated device where the interlayer dielectric region (ILD) is structured to separate a first conductive layer from a second conductive layer of the monolithically integrated device, the method comprising:

(a) providing an organic Anti-Reflection Coating layer (ARC layer) above the material of the ILD;

(b) providing a photoresist layer above the ARC layer, where the photoresist layer includes a plurality of first openings defined therethrough, wherein said photoresist layer is composed of an organic material;

(c) creating from the first openings, a plurality of second openings extending through the organic ARC layer, where the second openings have inwardly-tapered sidewalls such that bottom width dimensions of the second openings are smaller than corresponding width dimensions of the first openings; and

(d) creating from the second openings, a plurality of third openings extending through the ILD material; wherein

(c.1) said step of creating the second openings includes using an etch inhibitor which selectively adheres to organic surfaces, and

(c.2) said step of creating the second openings includes creating a reactive ion plasma having a hydrocarbon-providing component, having a fluorine-providing component, and having an inert bombardment component.

Claim 5 (*Previously Presented*): The method of Claim 4 wherein:

(c.2a) the hydrocarbon-providing component includes CHF_3.

Claim 6 (*Original*): The method of Claim 4 wherein:

(c.2a) the fluorine-providing component includes CF_4.

Claim 7 (*Original*): The method of Claim 4 wherein:

(c.2a) the inert bombardment component includes argon (Ar).

MacPherson Kwok Chen & Heid LLP
2033 Gateway Place, Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262

Claim 8 (*Previously Presented*): The method of Claim 4 wherein:

(c.2a) the hydrocarbon-providing component includes CHF_3;

(c.2b) the fluorine-providing component includes CF_4; and

(c.2c) the ratio in the reactive ion plasma of said CF_4 to said CHF_3, as measured by volumetric input flow is substantially less than five to one (5:1).

Claim 9 (*Original*): The method of Claim 8 wherein:

(c.2c1) said CF_4 to CHF_3 ratio is about or less than three to one (3:1).

Claim 10 (*Original*): The method of Claim 9 wherein:

(c.2c2) said CF_4 to CHF_3 ratio is about or less than one to one (1:1).

Claim 11 (*Original*): The method of Claim 1 wherein:

(d.1) said step of creating the third openings includes causing isolated ones of said third openings to have bottom width dimensions, on average, of no more than about 0.20μm.

Claim 12 (*Original*): The method of Claim 1 wherein:

(d.1) said step of creating the third openings includes causing densely-packed ones of said third openings to have bottom width dimensions, on average, of no more than about 0.18μm.

Claim 13 (*Original*): The method of Claim 1 wherein:

(c.1) said step of creating the second openings includes causing the slopes of said inwardly-tapered sidewalls to be at least about four degrees or more away from a 90 degree vertical slope.

MacPherson Kwok Chen & Heid LLP
2033 Gateway Place,
Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262

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Claim 14 (*Original*): The method of Claim 13 wherein:

(c.1a) said step of creating the second openings includes causing the slopes of said inwardly-tapered sidewalls to be inwardly sloped in a range of about 7 degrees to about 40 degrees away from a 90 degree vertical slope.

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Claim 15 (*Original*): The method of Claim 14 wherein:

(c.1b) said step of creating the second openings includes causing the slopes of said inwardly-tapered sidewalls to be inwardly sloped in a range of about 7 degrees to about 22 degrees away from a 90 degree vertical slope.

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Claim 16 (*Original*): The method of Claim 1 wherein:

(d.1) said step of creating the third openings includes causing said third openings to have sidewall profiles that are not sloped by more than about 3 degrees away from a 90 degree vertical slope.

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Claim 17 (*Original*): The method of Claim 1 wherein:

(d.1) said step of creating the third openings includes creating a reactive ion plasma having a carbon-providing component, having a fluorine-providing component, and having an inert bombardment component.

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Claim 18 (*Original*): The method of Claim 17 wherein:

(d.1a) the carbon-providing component includes carbon monoxide (CO).

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Claim 19 (*Original*): The method of Claim 17 wherein:

(d.1a) the fluorine-providing component includes C_4F_6.

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Claim 20 (*Original*): The method of Claim 17 wherein:

(d.1a) the inert bombardment component includes argon (Ar).

MacPherson Kwok Chen & Heid LLP
2033 Gateway Place,
Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262

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Claim 21 (*Original*): The method of Claim 1 wherein:

(d.1) said third openings have bottom width dimensions, on average, that are at least 5 percent smaller than corresponding bottom width dimensions of corresponding first openings in the photoresist layer.

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Claim 22 (*Original*): The method of Claim 21 wherein:

(d.2) said third openings have bottom width dimensions, on average, that are at least 10 percent smaller than the corresponding bottom width dimensions of the corresponding first openings in the photoresist layer.

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Claim 23 (*Previously Presented*): The method of Claim 1 and further comprising:

(e) using a predefined photomask to define width dimensions of the first openings; and

(f) using the same predefined photomask to manufacture additional monolithically integrated devices each having a respective version of said ILD region, of said photoresist layer and of said ARC layer with inwardly-tapered openings, but where at least two of the monolithically integrated devices that are manufactured by use of said same predefined photomask have substantially differently dimensioned widths for their corresponding, third openings extending through their corresponding ILD regions and have substantially differently dimensioned widths for their corresponding, second openings.

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Claim 24 (*Original*): The method of Claim 23 and further comprising:

(g) providing respective conductive plugs extending through said third openings of the respective monolithically integrated devices.

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Claim 25 (*Original*): The method of Claim 24 and further comprising:

(h) providing patterned conductive layers above the corresponding ILD regions of the respective monolithically integrated devices.

MacPherson Kwok Chen & Heid LLP
2033 Gateway Place,
Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262

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Claim 26 (*Previously Presented*): The method of Claim 25 wherein:

(h.1) at least two of said respective patterned conductive layers have substantially different plug spacings and/or substantially different spacings between corresponding conductive lines of their respective, patterned conductive layers.

Claims 27-33: (*Canceled*).

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Claim 34 (*Original*): A contact forming method comprising:

(a) patterning an organic photoresist layer which is provided over an organic ARC layer, where the ARC layer is provided over a dielectric layer, the patterning of the photoresist layer causing through-holes to be defined in the photoresist layer;

(b) using an inwardly-tapering etch process to continue the through-holes of the lithography mask into the ARC layer as inwardly-tapered through-holes of the ARC layer;

(c) using an anisotropic etch process to continue the inwardly-tapered through-holes of the ARC layer into the dielectric layer as substantially vertical contact holes through the dielectric layer; and

(d) filling the substantially vertical contact holes with an electrical conductor.

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Claim 35 (*Original*): The contact forming method of claim 34 wherein:

(b.1) said inwardly-tapering etch process causes etch inhibitors to adhere to sidewalls of the photoresist layer through-holes.

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Claim 36 (*Original*): The contact forming method of claim 34 wherein:

(c.1) said anisotropic etch process causes etch inhibitors to adhere to sidewalls of the inwardly-tapered through-holes of the ARC layer.

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Claim 37 (*Original*): The contact forming method of claim 34 wherein:

(d.1) said electrical conductor includes a refractory metal.

MacPherson Kwok Chen & Heid LLP
2033 Gateway Place,
Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262

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Claim 38 (*Previously Presented*): The method of Claim 1 wherein:

(d.1) said ILD includes a silicon-oxide based insulator having a thickness of about 0.1 μm or more.

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Claim 39 (*Previously Presented*): The method of Claim 1 wherein:

(b.1) said photoresist layer has a thickness of about 0.61μm or less.

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Claim 40 (*Previously Presented*): The method of Claim 1 wherein:

(a.1) said organic ARC layer has a thickness of about 700Å to 800Å.

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Claim 41 (*Currently Amended*): The method of Claim 1 ~~2~~ wherein:

at least two of said third openings are densely packed so as to have a spacing of no more than about 2000nm between them.

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MacPherson Kwok Chen & Heid LLP
2033 Gateway Place,
Suite 400
San Jose, CA 95110
Telephone: (408) 392-9250
Facsimile: (408) 392-9262